

MARYLAND COMMISSION on CLIMATE CHANGE

Ben Grumbles, Chair

Mitigation Work Group Meeting Notes for 10/6/2020

Members Present: Ben Grumbles, Kim Coble, Michael Powell, Tad Aburn, Alex Butler, Ben Hobbs, Bruce Ho, Colby Ferguson, Colleen Turner, Elizabeth Bunn, Elliott Campbell, Gregory Derwart, John Slocum, Josh Kurtz, Lisa McNeilly, Mark Stewart, Mike Remsberg, Steve Darcey, Bob Wright, Susan Payne, Thomas Walz, Tom Ballentine, Tom Weissinger

The meeting was called to order at 9:00 A.M. Please see each recommendation for the group's decision. Do note that the consensus items passed, and thus many in that section may only include short notes about wordsmithing.

Submitted MWG Recommendations 2020

The following recommendations were submitted for discussion at the 9/24 MWG meeting. This document incorporates outcomes from that discussion and organizes items for additional discussion and approval at the 10/6 MWG meeting.

*Recommendations here are split between those eligible for initial consensus vote and those that need further discussion. **MWG members will be asked to identify consensus items that should be moved to the list of items requiring additional discussion at the start of the 10/6 meeting and are encouraged to identify those ahead of time via email to chris.hoagland@maryland.gov***

After identifying recommendations to move from the consensus category to the discussion category, the MWG will be asked to vote on the remaining consensus items as a package. The MWG will then move on to the discussion items.

Items identified for move to discussion over email: 1.4, 1.5, 2.2, 3.3, 5.1, 7.1

Items moved to discussion during the meeting: 1.1, 6.1

Items moved back to consensus: 2.5

Items for Initial Consensus Vote – These were passed with unanimously.

GHG Reduction Goals and other GGRA Provisions and Implementation

1.1:

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In recognition of the escalating urgency of climate change and findings from recent scientific reports, Maryland should adopt more ambitious greenhouse gas reduction goals by amending the relevant provisions of the Greenhouse Gas Reduction Act:

- 2-1204 (1) The State shall reduce statewide greenhouse gas emissions by ~~40~~ 50% from 2006 levels by 2030.
- 2-1205 (c)(3) The plans shall be developed in recognition of the finding by the Intergovernmental Panel on Climate Change that developed countries will need to reduce greenhouse gas emissions ~~by between 80% and 95% from 1990 levels by 2050 to net zero~~ [as early as] [by] 2045.

Other provisions of the GGRA, including requirements to achieve positive economic and employment impacts, should remain, [including the progress report and check-in process in 2022 and 2023].

1.2: LCV/TNC/NRDC: Adopt and/or set in place a firm process and timeline for developing mitigation policies needed to achieve these targets.

1.4 (Workplan):

Commercial Real Estate Development Association (NAIOP):[MDE will evaluate] Word Resources Institute (WRI) accounting and reporting standard for greenhouse gas reduction goals [with the goal of comparing with our practices and finding any inconsistencies].

1.5 (Workplan):

NAIOP: Create an open source on-line access point for the E3 Maryland Pathways model like the Chesapeake Assessment Scenario Tool (CAST) that provides model inputs and allows the public to do scenario planning.

Environmental Justice and Climate Justice

2.1 (Workplan):

LCV/TNC/NRDC & SC: MDE should work with the public, other agencies, the General Assembly, and the Commission on Environmental Justice and Sustainable Communities to identify environmental and climate justice communities and the threats [and effects] that those individual communities are facing.

2.2 (Workplan):

LCV/TNC/NRDC & LNS: To supplement that practice, complete a thorough community environmental equity analysis regarding the impact of its suite of climate action policies, programs and proposals on communities of color, low-income communities, communities historically overburdened by pollution, [under-resourced rural communities,] and communities underserved by our historic energy and transportation systems. Community representatives should be included in the design of the study. The plan should be designed to identify specific goals and objectives (and evaluation/reporting thereof) to ensure equitable distribution of economic benefits produced by climate action strategies, policies and programs. Commit to prioritizing

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benefits to communities who have been disproportionately burdened [or underserved, including under resourced] by GHG emissions and other pollutants.

[Note: We will coordinate this with the Environmental Justice Committee.]

2.5 (Workplan):

LNS: Study policy solutions like California's Buy Clean California Act (AB262) and Washington State's Buy Clean and Buy Fair Washington Act and recommend same where it would be beneficial to Maryland jobs and GHG goals. *Cleanup

2.6 (Workplan):

LNS: Study and report on long-term job impacts on industries and communities as energy transition policies are implemented. This includes both job loss and job creation opportunities. The goal is to ensure the generation of sustainable economic benefits from climate action strategies, policies, and programs and address economic dislocations. Design efforts to ensure a just transition for workers and communities. Just transition policies must address wage replacement, guarantees of health care and retirement security, job training and job placement. Design efforts for communities must address loss of tax base and strains on community programs. The study should also include programs to minimize negative impacts, including creating jobs in remediation and clean up.

Transportation

3.1:

LCV/TNC/NRDC & SC: Maryland should lead in the interstate (TCI) discussions to develop, finalize, adopt, and implement an ambitious, equitable, and sustainable regional transportation cap-and-invest program that creates a new source of funding for clean transportation solutions that reduce greenhouse gas emissions; enhance public health protections, particularly for fence-line and frontline environmental justice communities; and rebuild our economy by creating new clean energy and clean transportation jobs. TCI program should begin as soon as possible, ideally by 2022

3.3:

LCV/TNC/NRDC & SC: [Advocate] that future federal response or recovery aid for public transportation improves worker protections through hazard pay, sick leave, etc.

*Offline wordsmithing – Colleen and Elizabeth

3.7:

MDA/DNR/LCV/TNC/NRDC: Support zero [emissions] private vehicles by supporting the strongest legally possible vehicle emission standards and opposing Federal rollbacks, promote and/or require charging

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infrastructure in multi-family dwellings, support continued and expanded incentives for purchase of zero emissions vehicles, designed to benefit low-income, underserved, and over-burdened communities.

Addition: Acknowledge Zero Emission Council is actively working on this issue.

Electricity Sector

4.4:

LCV/TNC/NRDC: Develop a three-pronged incentive approach to battery storage: up-front rebates; performance incentives; and access to low-cost financing.

4.6:

LCV/TNC/NRDC: Maryland should work with the other RGGI states to ensure that RGGI's third regional program review begins as soon as possible in 2021. Maryland should also champion additional program improvements, including a more ambitious cap, as part of this next program review to further reduce greenhouse gas emissions; enhance public health protections, particularly for fence-line and frontline environmental justice communities; and rebuild our economy by creating new clean energy jobs.

4.10:

MDA/DNR: Increase storage capacity and grid improvements to facilitate the use and dependability of renewably sourced energy generation.

Buildings

5.1:

Subgroup: [Advocate*] Enable fuel-switching to let Marylanders choose lowest cost energy systems. The General Assembly should amend the Public Utilities Article (PUA) section §7-211 to allow electrification of existing fossil fuel systems through EmPOWER and direct the Public Service Commission to require the electric utilities to proactively encourage customers with propane or oil heating systems to replace those systems with electric heat pumps, especially for homes with central air conditioning, especially for low income households and consumers. State agencies should also modify programs they manage to facilitate fuel-switching if not already allowed.

Passed

5.2:

Subgroup: Let EmPOWER facilitate beneficial electrification.

The General Assembly should amend the PUA section §7-211 to change the core objective of EmPOWER from electricity reduction to a portfolio of mutually reinforcing goals, including greenhouse gas emissions reduction,

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energy savings, net customer benefits, and reaching underserved customers. In so doing, the PUA should allow for beneficial electrification, which is when electrification meets one or more of the following conditions without adversely affecting the other two: 1) saves consumers money; 2) enables better grid management; and 3) reduces negative environmental impacts. Beneficial electrification programs should be prioritized first for low-income households and consumers and should be aligned with other health and safety upgrades to consider a whole-home or whole-building retrofit approach to ensure cost effectiveness and a focus on benefitting underserved homes and businesses first.

Use the ACEEE Definition: Beneficial electrification strategies provides 3 forms of societal benefits: reduced energy consumption (total source BTUs), lowered consumer costs, and reduced GHG emissions.

5.5:

Subgroup: Incentivize Net-Zero energy all-electric new buildings

The Maryland Building Codes Administration should develop optional codes and standards for all electric net-zero energy buildings, including allowance of near-site renewable energy systems such as community solar projects, and determine how to incentivize builders to design to those standards. This work should be coordinated with the Maryland Department of Housing and Community Development (DHCD) in shaping incentive offerings since DHCD already has a Net Zero Loan Program in place and could provide useful insights on program design and existing market gaps to increase the reach of other incentive efforts.

5.6 (Workplan):

Subgroup: Produce an Energy Transition Plan by the end of 2021

The State should develop an Energy Transition Plan to coordinate long-term activities and ensure that the overall buildings sector strategy achieves equitable benefits for disadvantaged communities, anticipates and prevents escalating distribution system costs for shrinking pools of natural gas customers, and takes advantage of opportunities for economic growth, including for the agricultural community from renewable fuel development and EmPOWER market optimization. In 2021, the MWG should coordinate the necessary research and planning process.

5.7:

Subgroup: Prioritize an equitable level of benefits for all Marylanders

The Governor, State Agencies, Commissions, and General Assembly should ensure that all policy decisions to reduce greenhouse gas emissions from the building sector in Maryland, including those within these recommendations, prioritize an equitable level of benefits to limited income households, the state's affordable and multi-family housing stock, and low income ratepayers, and concurrently with the benefits provided to others.

5.8:

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Subgroup: Improve interagency coordination for wholistic building retrofits

The Governor, via Executive Order, or General Assembly, via legislation, should revive an Interagency Task Force with the goal of increased and consistent coordination across programs, policies, and funding streams to retrofit the state's existing building stock to achieve healthier, safer, more efficient, and climate-friendly homes and businesses. This Green and Healthy Task Force would identify opportunities to align lead, mold, asbestos, and indoor air quality remediation intervention schedules and programs with energy efficiency upgrades and electrification retrofit programs to ensure a more cost-effective, whole-building retrofit program that meets the state's various health, safety, affordability, and climate action goals. Progress should be tracked and measured through a public state dashboard.

5.9 (Workplan):

NAIOP: Commission a study of the market potential and consumer economics of renewable thermal / beneficial electrification examining incremental first costs, payback periods, appropriate incentive levels and source GHG savings associated with oil, propane, electric and natural gas options.

5.10 (Workplan):

NAIOP: Consult with PSC on a methodology or series of alternative methods to evaluate source emissions and electric loads associated with building electrification.

5.11:

LNS: Require state agencies to take into account carbon intensity when purchasing structural materials for public infrastructure projects.

Natural and Working Lands; Carbon Sequestration

6.2:

MDA/DNR: Provide incentives to Maryland's farmers and forest landowners to realize the full potential of climate friendly soil and forest management practices.

6.3:

MDA/DNR: Identify permanent, dedicated sources of funding for land-based sequestration to recognize Maryland's farmers for their leadership role in advancing climate solutions, provide supplemental income to the agricultural community, and promote rural economic development.

Short-lived Climate Pollutants (SLCP)

7.1:

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LCV/TNC/NRDC: Include the 100- and 20-year global warming potential (GWP) in accounting and reporting of GHGs.
Passed

Process

8.2:

NAIOP: Create a cloud-based literature library related to issues on the MWG workplan.

Discussion Items – Each was specifically voted on.

GHG Reduction Goals and other GGRA Provisions and Implementation

1.3:

Sierra Club: MCCC should recommend that the General Assembly require climate change actions by all state agencies.

Wordsmith concept.* Problems with generality.

Consider passed if no dissent over email after wordsmithing

1. Environmental Justice and Climate Justice

2.3: (Workplan) Evaluate

LNS: Promote community benefits agreements that include labor harmony provisions; hiring from disadvantaged communities and populations (including returning citizens); pre-apprenticeship/apprenticeship training programs.

Words to associate with climate*

2.4 (Workplan):

LNS: *As part of the manufacturing study required by the GGRA*, the Commission, working with other State agencies should analyze (1) how to promote manufacturing in-state in a way that creates sustainable, high-quality jobs related to renewable energy (including transportation, building retrofits, etc); (2) benefits of including provisions in procurement and other policies like prevailing wages, project labor agreements, labor harmony agreements, and buy Maryland/buy USA/hire Maryland policies.

Passed

2.7 (Workplan):

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~~Study the results of privatization and public-private partnerships on cost overruns, compliance and climate impacts.~~

Did not pass, may be re-written

2. Transportation Sector

3.2:

LCV/TNC/NRDC & SC: Based on the Maryland Transit Administration's Capital Needs Inventory, ~~reintroduce or modify the Transit Safety & Investment Act of 2019 (HB 368) to~~ repair/replace MTA equipment to gradually bring down the backlog of deferred maintenance projects over the next six years. Based on adjustments to the Electric Bus Transition Act of 2019 (HB 432), mandate that starting in 2024 all bus replacements be zero-emissions buses.

Kim and Earl Wordsmith offline*

3.4:

LCV/TNC/NRDC: Complete study on barriers to purchase of zero emissions vehicles and identify potential mechanisms to reduce the barriers.

Kim, Earl, and Colleen Wordsmith offline*

Who is doing the purchasing / who is the target

3.5:

LCV/TNC/NRDC: Propose study on impact of rideshare companies/apps on greenhouse gas emissions

Further wordsmith, bundle w/3.4

3.6:

SC: ~~Recommend the state reverse MTA's harmful decisions to cut bus service by 20%, reduce MARC, commuter local bus, and paratransit service, and cut the MTA's already strained six year capital budget for critical safety needs by \$150 million.~~

3.8:

SC: Recommend the state ensure that the Purple Line Light Rail project gets built without further delay and build the East-West Baltimore Red Line.

Combine above transportation recommendations, small group wordsmith something to address transportation emissions (including 3.9)

3.9:

SC: Recommend the state withdraw the Maryland Department of Transportation's decision to widen I-495 and I-270 with toll lanes.



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3. Electricity Sector – Skipped for time

4.1:

LCV/TNC/NRDC: The Public Service Commission and other relevant agencies and commissions should participate in a detailed study around the current function of our grid and necessary changes to create a more customer-centered, affordable, reliable and environmentally sustainable energy system. The PSC can draw heavily on the experience of the PC-44 process to address current and predicted issues related to resilience, reliability, cost, deep decarbonization and technological advancements

4.2:

LCV/TNC/NRDC: Require the Public Service Commission to complete a cost-benefit analysis of energy storage that incorporates energy and non-energy benefits as well as avoided costs from storage deployment.

4.3:

LCV/TNC/NRDC: Develop a megawatt or megawatt hour storage mandate based on peak shaving/shifting and integration of renewable sources. Other states have used 5% of summer peak energy to develop their goals.

4.5:

LCV/TNC/NRDC & SC: Reintroduce HB 531 (2019) that requires the Public Service Commission to take a more active role in energy planning and elevate climate change as a component of all decision making.

4.7:

LCV/TNC/NRDC: Double the net metering cap to 3,000 MW to accommodate continued growth of the Community Solar Program and roof top solar projects.

4.8:

LCV/TNC/NRDC & SC: The General Assembly should establish a clear, enforceable schedule to responsibly manage Maryland's transition off its remaining coal-fired power plants by no later than 2030, including the creation of a workforce and community transition plan to support laid-off workers and impacted communities

4.9:

LCV/TNC/NRDC & SC: The General Assembly should set forth a 100% clean energy by 2040 plan that is made up of clean, renewable electricity from wind, solar, and storage technologies, and focused on providing the benefits of clean energy to overburdened and underserved communities first.



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4.10:

LCV/TNC/NRDC & SC: The Commission should recommend the Governor and state agencies halt the construction or permitting of any gas-fired power plants in the state that are not already online and fully operational

4.11:

MDA/DNR: Use waste from managed forests and the lumber industry in Maryland for energy. Need to ensure the demand for biomass would not contribute to unsustainable forest management practices that would deplete forest carbon stocks over the long run.

4.12:

MDA/DNR: Animal waste to energy projects reduce on-farm waste, produce valuable energy supplies for the farm and grid (qualify as Tier 1 renewables), and create marketable nutrient by-products that can supply organic matter and micronutrient applications for crop fields.

4. Buildings Sector

5.3:

Subgroup: [A]: Set a Target for 50% of space heater sales to be Heat Pumps by 2025; or [B]: Establish Residential heat pump retrofit goals

[A] The General Assembly should direct the Public Service Commission to ensure that EmPOWER programs, incentives, and implementation plans are sufficient to for 50% of space heater sales to be electric heat pumps (air source or ground source) by 2025.

*Make sure these are targets/goals, not mandates

OR

~~[B] The Mitigation Work Group should establish annual heat pump retrofit targets for existing buildings sufficient to meet Maryland's 2050 decarbonization goals as part of an Energy Transition Plan described in Recommendation 6~~

5.4:

Subgroup: [A]: Require [Energy model to demonstrate* add to title] All-Electric new buildings by 2025 with cost controls; or [B]: Require All-Electric new homes by 2025

[A]The Maryland Building Codes Administration should require additional energy use reductions relative to the current code, require that "on-site combustion of fossil fuels shall not be permitted for the provision of thermal energy to the building." and determine if any other parts of the codes would need to change in response to this amendment. Compliance with the all-electric requirement should begin by 2025 for new single-family homes and 2026 for new commercial buildings but publicly-owned buildings should meet the standard earlier to save taxpayers money and have Maryland government lead by example. The General

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Assembly or Administration should adopt requirements for all-electric and energy-efficient new buildings for state funded facilities including requirement to ensure that fossil fuel equipment at the end of its useful life is replaced with cost effective electric heating and cooling options. Electric vehicle charging, solar-ready, smart grid, and demand response-ready amendments should also be added to codes as soon as possible. *Exclusions based on cost, CHP use, and district energy use as described in subgroup report.*

OR

[B] The Maryland Building Codes Administration should, for new homes, require additional energy use reductions relative to the current code, require that “on-site combustion of fossil fuels shall not be permitted for the provision of thermal energy to the building,” and determine if any other parts of the codes would need to change in response to this amendment. Compliance with the all-electric requirement should begin by 2025.

* Possible splitting of recommendation for consensus

Residential, commercial, state owned

Not passed

5. Natural and Working Lands; Sequestration – Not yet discussed (Time)

6.1:

LCV/TNC/NRDC: Develop a sequestration mandate, based on the technical study completed by the Harry R Hughes Center for Agro-Ecology, with approved techniques to increase sequestration. Focus on why our sequestration has remained consistent over the course of the Greenhouse Gas Reduction Plan. Potentially to be discussed in conjunction with the Adaptation Working Group.

6.4:

MDA/DNR: Develop and implement programs to protect soils and build carbon stocks and attract private investment through payments for carbon credits and other ecosystem services as public awareness grows and markets evolve.

6. Short-Lived Climate Pollutants

7.2:

LCV/TNC/NRDC & SC: The Commission should recommend the MDE update its reporting and benchmarking emissions inventories and the General Assembly update climate action laws to evaluate the warming potential of methane pollution based on modern science, including an appropriate infrastructure leakage rate of at least 3-percent and the 20-year warming potential associated with methane emissions.

Workplan item – gain greater understanding of the issue, update our supplemental inventory of methane leakage out of state. Further wordsmithing topic*

7. Process – Not yet discussed (Time)

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8.1:

NAIOP: Create a sequencing plan that prioritizes the order of policy implementation.

8.3:

NAIOP: Establish MWG policy discouraging assigning issues to subgroups and utilizing third party facilitators when subgroups are formed.

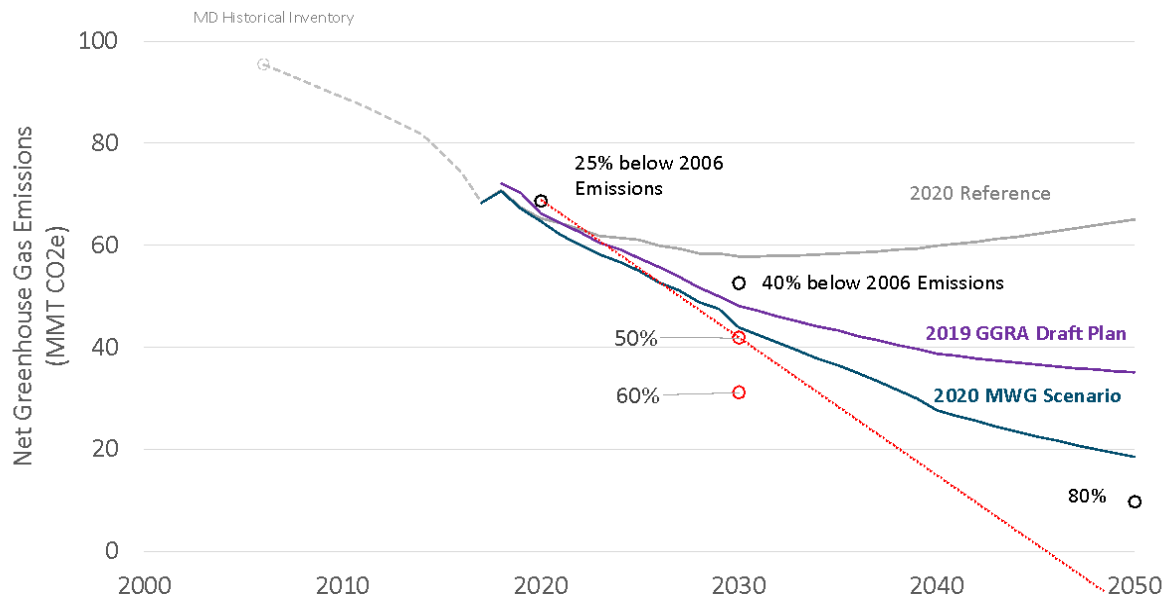


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GHG Goals



This graph shows net emissions (gross emissions minus sequestration). GGRA reductions goals are percentages of gross emissions so they won't visually correspond to percentages on the y-axis on this graph.

The IPCC Special Report on 1.5C in 2018¹ evaluated emission reduction pathways that could limit the impacts of global warming to 1.5 degrees Celsius above preindustrial levels. The pathways included some with steep enough declines in emissions to limit warming to 1.5 degrees and others with less steep declines that would cause warming to exceed 1.5 degrees, then come back down later due to future negative emissions.

It does not establish goals for specific countries, but developed nations are expected to follow the steeper reduction pathways. The report offered four illustrative pathways within a range of reduction pathways. The illustrative pathway with the steepest reduction achieves a 50% reduction in net greenhouse gas emissions by 2030, relative to 2010 levels. It achieves an 82% reduction in net greenhouse gas emissions in 2050, and net-zero carbon dioxide emissions between 2045 and 2055. The illustrative pathways are examples of reduction

1

https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf; see p. 14 for pathway reductions.

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pathways within a broad range, which encompasses steeper reduction pathways than these percentages, including ones that achieve net zero among all greenhouse gases as early as 2044.²

The GGRA covers six major greenhouse gases, not just carbon dioxide. Its reduction targets are calculated on gross emissions, not net emissions, and relative to a 2006 baseline, not 2010, so some of the precise percentages in the 2018 IPCC report are not directly comparable to GGRA goals.

On balance, GGRA goals of 50% reduction by 2030 and net zero by 2045 would be consistent with developed nations' responsibilities to follow the steeper end of global reduction pathways evaluated by the IPCC.